

Date	Time	2F, Conference Hall (Flora, Luna, Bella)
January 3, 2025	8:00	Registration
	9:00	Opening Ceremony
	9:30	<p style="text-align: center;">Chee How Tan Vice President, Power and Sensor Systems & Technical Marketing, Managing Director, Infineon Semiconductor (Greater China) Co., Ltd.</p>
	10:30	Coffee Break
	10:45	<p style="text-align: center;">Lance, Li Lain Jong Professor, Department of Materials Science and Engineering, National University of Singapore</p>
	11:45	<p style="text-align: center;">Hao-Chung Kuo Chair Professor, Department of Photonics, National Yang Ming Chiao Tung University Director, Semiconductor Research Center, Hon Hai Research Institute</p>
	12:30	<p style="text-align: center;">Luncheon and Poster Sessions NDPP#14, NDPP#16, NDPP#23, NMPP#26, NDPP#32, NDPP#61, NDPP#83, NDPP#93, AIPP#96, NDPP#100, NDPP#108, NDPP#115, AIPP#134</p>

January 3, 2025	13:30	Orlando Auciello Distinguished Endowed Chair Professor of Materials Science/Engineering and Bioengineering University of Texas at Dallas, Founder/CEO, Original Biomedical Implants (OBI-USA) Co-Founder/CEO, Original Biomedical Implants (OBI-México)
	14:30	Randy Kong Global Engineering Director, Microsoft Seattle, USA
	15:15	High Tea
	15:30	Wang Qijie Associate Chair (Research), School of Electrical & Electronic Engineering, Nanyang Technological University Singapore Director, Centre for OptoElectronics and Biophotonics (OPTIMUS), Nanyang Technological University Singapore
	16:15	Chen Jing Sheng Professor & Deputy Head for Postgraduate, Materials Science & Engineering, NUS Singapore

Date	Time	2F, Jixiang
January 4, 2025	8:30	<p style="text-align: center;">Lee Pooi See Vice President (International Engagement), Nanyang Technological University Singapore President's Chair in Materials Science and Engineering, Nanyang Technological University Singapore</p>
	9:30	<p style="text-align: center;">Sponsor Introduction: Infineon Technologies AG</p>
	9:40	<p style="text-align: center;">Sponsor Introduction: Educare</p>
	9:45	<p style="text-align: center;">Shu Ping Lau Chair Professor and Head of the Department of Applied Physics, Hong Kong Polytechnic University Director of the University Research Facility in Materials Characterization and Device Fabrication and Associate Director of the Photonic Research Institute</p>
	10:30	<p style="text-align: center;">Coffee Break</p>
	10:45	<p style="text-align: center;">Sponsor Introduction: PVA TePla</p>
	10:55	<p style="text-align: center;">Sponsor Introduction: CADMEN, Taiwan Auto-Design Co. (TADC)</p>
	11:00	<p style="text-align: center;">Teo Hang Tong Edwin Director, Temasek Laboratories @NTU, Nanyang Technological University, Singapore</p>
	11:45	<p style="text-align: center;">Sponsor Introduction: CL TECHNOLOGY Co., LTD.</p>
	11:55	<p style="text-align: center;">Sponsor Introduction: JIE DONG Co., LTD.</p>
	12:00	<p style="text-align: center;">Luncheon and Poster Sessions NDPP#14, NDPP#16, NDPP#23, NMPP#26, NDPP#32, NDPP#61, NDPP#83, NDPP#93, AIPP#96, NDPP#100, NDPP#108, NDPP#115, AIPP#134</p>

Technical Sessions					
January 4, 2025		Room	2F, Flora	2F, Luna	2F, Bella
		Session	Nanoelectronic Devices	NanoTechnology	Nanomaterials
		Session Chair	Yee Sin Ang	Song Peng	Yang Hui Ying
	13:00		Yee Sin Ang: Computational Design of Sustainable 2D Semiconductors, Interfaces and Devices	Song Peng: Spin-orbit electronics in Van der Waals heterostructures	Yang Hui Ying: New low dimensional materials design for energy storage and water treatment
	13:30		Vita Pi-Ho hu: Optimizing Chip Performance Using (110) Channel-Oriented CFET for Advanced Logic Circuits and SRAMs	Lee Sunwoo: Optoelectronic Microsystems Based on Heterogeneously Integrated CMOS for Tetherless Neural Recording	Yasuo Cho: MOS Interface Charge State Mapping by Scanning Nonlinear Dielectric Microscopy
	14:00		Ching Yuan Su: Enabling BEOL-compatible synthesis of 2D materials and efficient integration of functional nonelectronic	Kim Munho: Wafer bonding and single crystal nanomembranes for miniaturized electronic/optoelectronic devices	Shweta Agarwala: Harnessing Biodegradable Materials for a Greener, Smarter Future in Electronics
	14:30		NDOP#52: A DC-24 GHz SPDT Switch in 22 nm FD-SOI CMOS for 5G FR1 and FR3 Bands	NTOP#106: Integration of Solar Energy in Distribution Systems with Reconfiguration Strategies	NMOP#66: Realization of Oxygen vacancy induced quantum point contact in Mn3O4 nanowire based Resistive Memory Devices
	14:45		NDOP#63: Improved Diode-Trigger SCR with ESD Implantation in 28-nm CMOS Technology	NTOP#135: Investigation of thermally-induced cracks on the mechanical and electrical behavior of TGVs	NMOP#133: Analysis and observations into the Quantum dot-Quantum well hybrid structure using a CZTSSe/CZTS
	15:00			NTOP#109: Strain Engineering of hBN Single-Photon Emitters for Quantum Photonics	NMOP#21: Modeling substrate impacts on formation of bilayer silicene
	15:15	High Tea			

		Session	Nanoelectronic Devices	Nanotechnology	AI Applications	
		Session Chair	Ravikiran Lingaparthi	Zhaojun Han	Min Hung Lee	
January 4, 2025	15:30		Ravikiran Lingaparthi: Two-dimensional hole gas at the negative polarization interface in nitrides – omnipresent or conditional?	Zhaojun Han: Electronic modulation on graphene-based catalysts for enhanced carbon dioxide conversion	Min Hung Lee: High Capacitive Ratio of Memcapacitors with High Dielectric Constant and Applicable Remanant Polarization Toward Neuromorphic Computing	
	16:00		Der Hsien Lien: Resolving the Fundamental Limit in Ultrathin Oxide Semiconductors	Chit Siong Lau: Engineering 2D Material and Liquid Metal Oxide-based Devices for Nano-electronics and Quantum Applications	Sreetosh Goswami: Molecular Neuromorphic Building Blocks for Artificial Intelligence	
	16:30		NDOP#20: Electronic and Optical Characteristics of 2D PtSe2	Mohamed Boutchich: Power factor of low dimensional materials for thermoelectric applications	Sayani Mazumdar: On Uniformity Challenges and Mitigation Strategies of Low Thermal Budget Ferroelectric Devices for Memory and Neuromorphic Applications	
	16:45		NDOP#57: Simulation of SiC and Si Power Converters for Energy Efficient Data Intensive Computing			
	17:00		NDOP#84: Design and Modeling of Hf1-xZrxO2 Compositions and Interfacial Layers in FTJs	NTOP#121: Nanocrystalline Graphitic Carbon Deposited by Filtered Cathodic Vacuum Arc Technique	AIOP#97: Integrated Bionic Human Retina Process and In-Sensor RCSytem Based on 2D Retinomorphiic Memristor Array	
	17:15			NTOP#130: Non- invasive and label-free detection of AD pathology-inducible cerebral organoids through auto-fluorescence lifetime imaging	AIOP#128: Design of Temperature Resistant Dual Band VCO with Integrated TFC Circuit for Studying Aging Affect using Machine Learning Framework	
	17:30					
	17:45					
	18:30	BANQUET DINNER				

Date	Time	2F, Jixiang			
January 5, 2025	9:00	<p align="center">Liu Zheng President's Chair in Materials Science and Engineering, Nanyang Technological University Singapore</p>			
	10:00	<p align="center">Kuan Yew Cheong Professor, Universiti Sains Malaysia</p>			
	10:45	<p align="center">Coffee Break</p>			
	11:00	<p align="center">Tay Beng Kang Co-Director, NTI-NTU Corporate Laboratory; President's Chair in Nanoelectronics Professor and Associate Chair (Faculty) in School of Electrical & Electronic Engineering; Deputy Director, CNRS- International-NTU-Thales Research Alliance (CINTRA), Nanyang Technological University Singapore</p>			
	11:45	<p align="center">Luncheon and Poster Sessions NDPP#14, NDPP#16, NDPP#23, NMPP#26, NDPP#32, NDPP#61, NDPP#83, NDPP#93, AIPP#96, NDPP#100, NDPP#108, NDPP#115, AIPP#134</p>			
Technical Sessions					
January 5, 2025			2F, Flora	2F, Luna	2F, Bella
		Session	Nanoelectronic Devices	NanoTechnology	Nanoelectronic Devices
		Session Chair	Roland Tay	You Chia Chang	Tian Li Wu
	13:00		<p>Roland Tay: Growth and Applications for Low-Dimensional BN and Graphene Nanostructures</p>	<p>You Chia Chang: Solid-state beam steering and focusing with photonic integrated circuits</p>	<p>Tian Li Wu: Investigation of Gate Lifetime Using Different Time-to-Failure Criteria on SiC Planar and Trench MOSFETs</p>

January 5, 2025	13:30		Satish patil: Harnessing Light: Innovations in Organic Photodetectors and Solar Cells	Philippe Coquet: Development of Carbon Nanotube based Waveguide and Filters in W-Band	Lixia Zhao	
	14:00		Darsen Lu: Ultra-low Voltage CMOS with Steep Swing Devices at Room and Cryogenic Temperatures	Lingxian Meng	Wu Xing	
	14:30		NDOP#59: High Ge concentration ($5 \times 10^{20} \text{ cm}^{-3}$) in GaN Ohmic contacts for HEMT applications	NTOP#17: Oxygen Plasma Treatment for Enhanced Electrical Contact Between Vertically Aligned Carbon Nanotubes and Metals in Thermocompression Bonding Technique	NDOP#89: Radiation-Induced Degradation in Nano- Interconnects of Advanced Node Integrated Circuits	
	14:45		NDOP#18: Degradation Mechanisms of p-GaN gate AlGaIn/GaN High-Electron-Mobility Transistors under Different Stress	NTOP#99: Accelerate nanoelectronics and nanophotonics research productivity using Zeiss FIB-SEM Crossbeam laser	NDOP#8: Graphene Nanoribbon Interconnects for RF Sensing: Modeling and Performance Analysis Using Ring Oscillators	
	15:00		NDOP#45: Two-Dimensional Perovskites For Fast Scintillation Applications		NDOP#67: Immunity of Electronic Properties of Monolayer Germanium-Sulfide Nanoribbons to Edge Defects	
	15:15	High Tea				
		Session	Nanoelectronic Devices		AI Applications	
		Session Chair	Chih Shan Tan		Radhakrishnan K	
	15:30		Chih Shan Tan: Integrating Machine Learning for Advanced Predictions of Material Properties in Device Applications		Arindam Basu: In-memory Computing Across Times and Scales	

January 5, 2025	16:00		NDOP#111: An Electromagnetic Study of Scalability of CMOS-compatible Si3N4 Optical Waveguides for Nanophotonics on a Silicon Substrate		AIOP#12: A Highly Stable and Layout Area-Reduced Electronic Neuron and Its Application to Associative Memory
	16:15				AIOP#22: Machine learning (ML) assisted design and synthesis of MXenes based electromagnetic absorbers
	16:30				
	16:45				